

In the Claims:

1. A method of making a rheology-modified aqueous composition comprising admixing a material or materials whose constituents conform to the proportions of the empirical formula



where M' represents at least one divalent metal cation and m is an amount of from greater than zero to about 8;

where M'' represents at least one trivalent metal cation and n is an amount of from greater than zero to about 6;

where Z is an anion or negative-valence radical that is monovalent or polyvalent, and a is an amount of A ions of valence q , provided that if A is monovalent, a is from greater than zero to about 8, and if A is polyvalent, a is from greater than zero to about 4;

where B is a second anion or negative-valence radical that is monovalent or polyvalent, and where b is an amount of B ions of valence r and b is from zero to about 4;

provided $(n+n)$ is greater than or equal to 1;

further provided $qa+br$ cannot be greater than $2m+3n$, and provided that qa cannot equal $2m+3n$;

and still further provided that $(2m+3n+qa+br)$ is less than 3; and

where xH_2O represents excess waters of hydration, with x being zero or more;

with at least a clay and water to form a rheology-modified aqueous composition.

2. The method of Claim 1 wherein $[M]$ M' is selected from Groups IIA, VIIB, VIII, IB or IIB of the Periodic Table.

4. The method of Claim 3 wherein the material is a calcined hydrotalcite, a calcined or uncalcined hydrotalcite-like compound, or mixture thereof.

11. The method of Claim 1 further comprising adding an aluminum oxide, a nitrogen-containing compound, or both.

14. The method of Claim 1 wherein the weight/weight ratio of clay to the material or materials having constituents conforming to the proportions of the empirical formula $M'_m M''_n (OH)_{(2m+3n+qa+br)} (A^q)_a (B^r)_b \cdot xH_2O$ is from about 99:1 to about 9:1.

15. The method of Claim 11 wherein the amount of aluminum oxide is from about 5 to about 35 weight percent, and the amount of the nitrogen-containing compound is from about 20 to about 120 weight percent, based on the weight of the clay and the dry material or materials conforming to the proportions of the empirical formula



18. A dry rheology modification agent comprising a material prepared from a combination of MgO, Al₂O₃ and its hydrates, Mg(OH)₂ and its hydrates, Na₂(CO₃)₂ and its hydrates, Ca(OH)₂, Fe(OH)₂ and its hydrates, hydrotalcite and hydrotalcite-like compounds and their hydrates, and cellulose, which have been calcined sufficiently to produce a material conforming to the proportions of the empirical formula



where M' represents at least one divalent metal cation and m is an amount of from greater than zero to about 8;

where M'' represents at least one trivalent metal cation and n is an amount of from greater than zero to about 6;

where Z is an anion or negative-valence radical that is monovalent or polyvalent, and a is an amount of A ions of valence q, provided that if A is monovalent, a is from greater than zero to about 8, and if A is polyvalent, a is from greater than zero to about 4;

where B is a second anion or negative-valence radical that is monovalent or polyvalent, and where b is an amount of B ions of valence r and b is from zero to about 4;

provided (n+n) is greater than or equal to 1;

further provided qa+br cannot be greater than 2m+3n, and provided that qa cannot equal 2m+3n;

and still further provided that (2m+3n+qa+br) is less than 3.

22. The rheology modified aqueous composition of Claim 21 wherein the material is prepared from a combination of MgO, Al₂O₃ and its hydrates, Mg(OH)₂ and its hydrates, Na₂(CO₃)₂ and its hydrates, Ca(OH)₂, Fe(OH)₂ and its hydrates, hydrotalcite and hydrotalcite-like compounds and their hydrates, and cellulose which have been calcined sufficiently to conform to the empirical formula



24. The composition of Claim 21 wherein the material conforming to the empirical formula $M'_m M''_n (OH)_{(2m+3n+qa+br)} (A^q)_a (B^r)_b \cdot xH_2O$ is a mixture of magnesium oxide, aluminum oxide (hydroxide), and sodium aluminate.

(Claims 25-48 are cancelled.)